

Amendments to Specification:

Please amend the specification as follows:

Please amend the paragraph on page 1, at lines 23-27 as follows:

The rigid, monolithic substrate can be fabricated from ceramics and other materials. Such materials and their construction are described, for example, in U.S. Patent Nos. 3,331,787 and 3,565,830 each of which is incorporated herein by reference. Alternatively, the monoliths can be fabricated from metal foil.

Please amend the paragraph on page 4, line 13 through line 21 as follows:

It is also disclosed in WO 92/09848 that the catalyst can be applied as a mixture of active catalyst (such as palladium) and a high surface support (Al_2O_3 , ZrO_2 , and SiO_2 , etc.). These are disclosed to be prepared by impregnating the palladium onto the high surface area oxide powder, calcining, then converting to a colloidal sol. In a second method, the high surface area ~~washcoat~~ washcoat may be applied first to the monolith or metal foil and fixed in place. Then the catalyst, e.g., palladium, may be applied by the same dipping or spraying procedure.

Please amend the paragraph on page 7 lines 14-26 as follows:

The at least one second inlet base metal oxides are selected from a second inlet refractory oxide, a second inlet rare earth metal oxide, a second inlet transition metal oxide, a second inlet alkaline earth metal oxide, and a molecular ~~sieve~~ sieve. Preferably the second inlet composition comprises at least one second inlet precious metal component. Preferably there is at least one precious metal component selected from the first inlet

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precious metal component and the second inlet precious metal component. The at least one precious metal component is preferably selected from the first inlet precious metal component and the second inlet precious metal component and said precious metal components are selected from at least one of platinum, palladium, rhodium, and iridium components.

Please amend the paragraph on page 9 lines 5-21 as follows:

Structurally, the architecture of the layers can vary as desired. For example at least a portion of at least one of the first or second inlet layers ~~over-laps~~ overlaps with at least one of the first or second outlet layers. A zone can also have a continuous gradient of material concentration versus layer thickness. Preferably the substrate has at least two adjacent zones, a first zone and a second zone, each extending axially along the length of conduit. The first zone can extend from the inlet and the second or outlet zone extends from the outlet along a separate length of the conduit than the first zone with each zone comprising the same catalyst architecture within said zone. The adjacent zones have different compositions and/or architecture. In a specific embodiment at least one layer of said first zone, and at least one layer of said second zone overlap to form at least one intermediate zone between the first zone and the second zone. There can be at least three zones, or there can be an uncoated zone between the first zone and the second zone.

Please amend the paragraph at page 15, lines 15-30 as follows:

An advancement of the present invention is that soluble components in coating compositions are fixed in their respective zones. For example, precious metal which may be present is fixed in its respective zone and even layer within a zone. In this way, a single monolithic honeycomb can be ~~multifunctional~~

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multifunctional with a minimum and preferably no migration of precious metal components or other materials having aqueous solubility or other diffusion characteristics from zone to zone, particularly during the process of manufacture. For the purposes of the present application the components within a zone are segregated, and preferably within a layer within a zone are also segregated in that layer and remain within the zone with a minimum. Most preferably there is a minimum of component migration or diffusion during the processing to manufacture the substrate. There is a minimum of migration precious metal from one zone to another, even where a composition from one zone overlaps with the composition in another zone.

Please amend the paragraph on page 19, lines 11-28 as follows:

The coating applied in Step B is then dried in accordance with Step C. A useful description of the drying step is described in the referenced Patent Application Serial No. ~~08~~
~~(attorney docket number 3924)~~ 09/067,831, now United States
Patent No. 5,953,832. Step C is an operative engagement of the vacuum apparatus for pulling vapors through the substrate and a blowing device for forcing gas (e.g., heated air) through the substrate in order to dry the coating. The honeycomb 10 continues to be retained by a suitable retaining means such as clamp 60 during the drying operation. A suitable means is used to apply a vacuum to the top or outlet end 14' of honeycomb 10. Preferably, hood 68 can continue to be applied or a new hood 70 is sealingly applied to the top or outlet end 14' of honeycomb 10 and a vacuum is applied by a suitable vacuum means, such as a vacuum pump (not shown) through conduit 72 to the top end or outlet end 14' of the honeycomb 10. There is a means for forcing or pushing a gas (e.g., hot air) into the channels 16 of the honeycomb. The apparatus includes a hood 76 which has means to be sealingly applied to the bottom or inlet end 14 of honeycomb 10.

Please amend the paragraph at page 20, lines 19-24 as follows:

Optionally, during Step C, the layer ~~ena~~ can be heated at suitable temperatures from 200°C to 700°C, preferably 200°C to 400°C to fix precious metal components within the composition. Preferably, the precious metal component is fixed on a refractory oxide support. This can be accomplished in the same manner as in the drying step except that the hot gas temperature is increased.

Please amend the paragraph at page 35, lines 15-17 as follows:

The first and/or second layer can have from 0.0 to about 2.0 g/in³ of an oxygen storage composite comprising particulate form of ~~ceria-zirconia~~ ceria-zirconia composite.